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**Question Paper Code: 31732**

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

Third Semester

Mechanical Engineering

01UME302 - MANUFACTURING TECHNOLOGY - I

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. List out pattern material used in casting process.
2. What is the principle employed in precision investment casting?
3. Distinguish MIG and TIG welding process.
4. Draw three types of welding flame and indicate the zones.
5. What is stretch forming?
6. List down the various steps involved in drop forging.
7. Differentiate between piercing and blanking.
8. Name any two explosive materials used in explosive forming.
9. Write the difference between thermoplastic and thermo set.
10. How do thermoplastics differ from thermo-setting plastics?

PART - B (5 x 16 = 80 Marks)

11. (a) Draw a neat diagram of a cupola furnace, indicate important parts and show various stages. (16)

Or

(b) Define centrifugal casting. Write down the working principle in detail with neat sketch. (16)

12. (a) (i) With a help of a neat sketch describe the electro slag welding process. (8)

(ii) Explain with a neat sketch the equipment and process of submerged arc welding. (8)

Or

(b) (i) Briefly explain about laser and friction welding process with neat sketches. (8)

(ii) Differentiate welding, brazing and soldering process. (8)

13. (a) Explain forward and backward extrusion process with neat sketch. (16)

Or

(b) With neat sketch, explain the working of a pneumatic hammer for forging. (16)

14. (a) (i) Describe the hydro forming process with the help of neat diagram. (8)

(ii) Explain the rubber pad forming process. (8)

Or

(b) Briefly explain the following special forming process with its advantages

(i) Explosive forming (8)

(ii) Super plastic forming. (8)

15. (a) (i) Describe briefly the process of injection moulding as used for producing plastic components. (8)

(ii) Explain in detail the thermoforming process. (8)

Or

(b) Elaborate blow moulding process with neat sketch. (16)